

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO COMMERCIAL

Report Number: P584906

Luminaire Tested: **HC850D010-HM82555940-81RWWH**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584906  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-15)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 10/21/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC850D010-HM82555940-81RWWH  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5122.5 lumens  
Efficiency: N/A  
Efficacy: 106.7 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.07 / 1.16  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

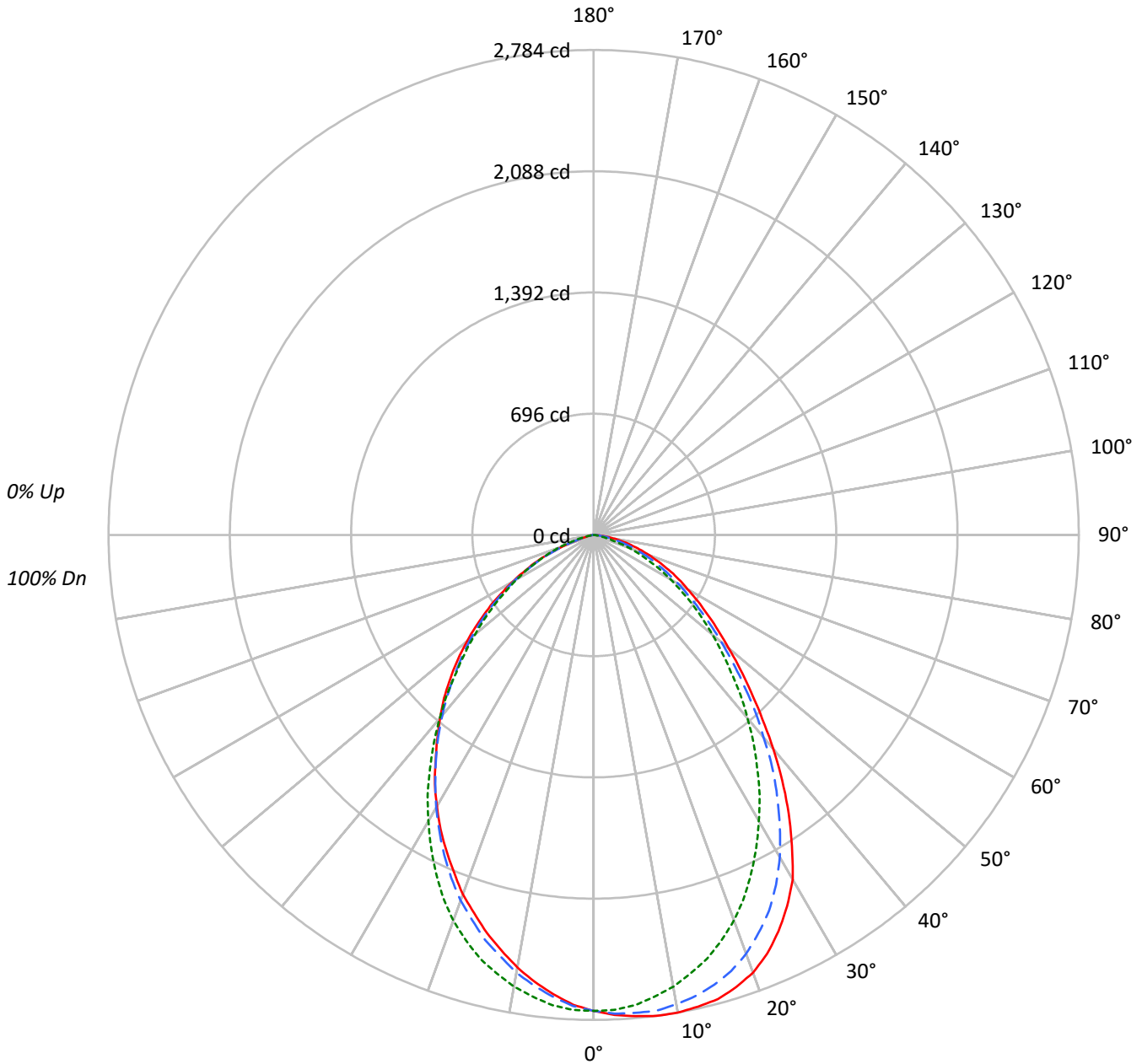
Input Watts (W): 48  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	111	107	104	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88																			
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77																			
3	95	86	79	73	92	84	78	73	81	76	71	79	74	70	76	72	69	67																			
4	88	77	70	64	86	76	69	63	74	67	63	71	66	62	69	65	61	59																			
5	81	70	62	56	79	69	62	56	67	60	55	65	59	55	63	58	54	52																			
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47																			
7	71	58	51	45	69	58	50	45	56	49	45	55	49	44	54	48	44	42																			
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38																			
9	62	50	42	37	61	49	42	37	48	41	37	47	41	37	46	41	36	35																			
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32																			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	84260	84260	84260
5°	85842	83892	81945
10°	87182	82429	78950
15°	88059	80379	75529
20°	87725	77274	72049
25°	85411	72815	68024
30°	81344	67500	64071
35°	73455	61605	59515
40°	64535	55297	55148
45°	55706	48602	50700
50°	48491	42629	45469
55°	42993	37026	39611
60°	38360	31280	32884
65°	34578	25392	25939
70°	30708	19024	15354
75°	26462	11033	6612
80°	20386	3942	1971
85°	13126	1309	1309



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	256.5	5.0
10°-20°	714.1	13.9
20°-30°	1010.0	19.7
30°-40°	1064.2	20.8
40°-50°	904.5	17.7
50°-60°	651.3	12.7
60°-70°	375.7	7.3
70°-80°	128.6	2.5
80°-90°	17.7	0.3
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1980.6	38.7
0°-40°	3044.8	59.4
0°-60°	4600.6	89.8
0°-90°	5122.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5122.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2732	2732	2732	2732	2732	
5°	2773	2755	2710	2662	2647	265
15°	2758	2673	2518	2407	2366	777
25°	2510	2381	2140	2029	1999	1151
35°	1951	1836	1636	1577	1581	1215
45°	1277	1218	1114	1122	1163	992
55°	800	737	689	715	737	720
65°	474	407	348	341	356	471
75°	222	167	93	59	56	234
85°	37	22	4	4	4	50
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2732.5	2732.5	2732.5	2732.5	2732.5	2732.5	2732.5	2732.5	2732.5	2732.5	2732.5
2.5°	2758.4	2762.1	2758.4	2758.4	2754.7	2751.0	2747.3	2743.6	2736.2	2728.8	2728.8
5°	2773.2	2780.6	2773.2	2773.2	2762.1	2754.7	2747.3	2736.2	2721.4	2710.2	2710.2
7.5°	2784.3	2784.3	2784.3	2773.2	2765.9	2754.7	2736.2	2717.7	2699.1	2680.6	2673.3
10°	2784.3	2784.3	2780.6	2765.9	2758.4	2736.2	2717.7	2691.7	2665.8	2640.0	2632.5
12.5°	2773.2	2777.0	2769.5	2754.7	2736.2	2710.2	2684.4	2651.1	2621.4	2591.8	2576.9
15°	2758.4	2754.7	2747.3	2728.8	2706.6	2673.3	2647.3	2610.3	2569.6	2532.5	2517.8
17.5°	2721.4	2721.4	2710.2	2691.7	2662.2	2625.1	2584.4	2543.6	2499.2	2458.5	2439.9
20°	2673.3	2673.3	2658.4	2636.2	2606.6	2558.5	2514.1	2465.9	2414.1	2373.3	2354.8
22.5°	2602.9	2606.6	2588.0	2562.2	2528.9	2473.3	2428.8	2369.7	2317.8	2269.6	2254.9
25°	2510.3	2517.8	2499.2	2473.3	2428.8	2380.8	2325.3	2269.6	2210.5	2162.3	2140.1
27.5°	2403.0	2406.6	2388.2	2362.2	2317.8	2266.0	2210.5	2151.2	2095.7	2043.8	2021.6
30°	2284.5	2269.6	2262.2	2228.9	2180.8	2136.3	2073.5	2025.3	1966.0	1921.6	1895.7
32.5°	2117.9	2125.2	2103.0	2077.1	2040.1	1988.2	1936.4	1880.9	1825.4	1792.1	1773.5
35°	1951.3	1958.7	1947.6	1921.6	1880.9	1836.5	1784.6	1743.9	1695.8	1655.1	1636.5
37.5°	1777.2	1777.2	1769.9	1755.0	1725.4	1684.6	1632.9	1592.1	1551.4	1518.1	1507.0
40°	1603.2	1595.8	1592.1	1581.0	1555.1	1518.1	1484.7	1451.4	1410.6	1388.4	1373.7
42.5°	1432.8	1432.8	1425.5	1414.4	1388.4	1370.0	1336.6	1299.6	1270.0	1247.8	1247.8
45°	1277.4	1281.1	1270.0	1262.5	1247.8	1218.1	1188.5	1162.6	1136.7	1121.9	1114.5
47.5°	1140.4	1140.4	1129.3	1121.9	1107.0	1081.1	1055.3	1033.0	1014.5	1003.4	999.7
50°	1010.8	1010.8	1010.8	992.2	973.8	955.3	936.7	910.9	899.7	892.3	888.6
52.5°	899.7	896.0	896.0	881.2	862.7	840.5	821.9	799.7	788.6	781.2	785.0
55°	799.7	799.7	796.1	777.5	759.0	736.8	718.4	699.8	692.4	684.9	688.7
56°	759.0	759.0	755.3	740.6	718.4	699.8	677.6	659.1	648.0	651.6	651.6
57°	729.5	722.0	722.0	703.5	684.9	659.1	640.5	622.0	614.7	610.9	610.9
58°	692.4	688.7	684.9	666.4	648.0	625.8	607.2	588.7	577.6	577.6	573.9
59°	655.3	655.3	648.0	633.1	614.7	592.4	573.9	555.4	544.3	540.5	540.5
60°	622.0	625.8	614.7	599.8	585.0	559.1	536.9	522.1	511.0	507.2	507.2
61°	592.4	592.4	585.0	566.5	548.0	529.4	507.2	488.8	481.3	473.9	473.9
62°	566.5	559.1	555.4	536.9	518.3	496.1	477.7	459.1	448.0	440.6	444.3
63°	533.2	529.4	522.1	507.2	488.8	466.5	444.3	429.5	418.4	407.3	411.0
64°	507.2	503.6	492.4	477.7	459.1	436.9	414.6	399.9	392.4	381.3	377.7
65°	473.9	470.2	466.5	448.0	429.5	407.3	388.8	374.0	362.9	355.5	348.0
66°	444.3	448.0	440.6	425.7	403.5	385.1	359.1	344.4	336.9	325.8	318.4
67°	418.4	418.4	411.0	396.2	374.0	355.5	336.9	318.4	307.3	296.2	292.5
67.5°	403.5	403.5	396.2	377.7	362.9	340.6	322.2	307.3	292.5	285.1	277.6
68°	388.8	388.8	385.1	370.2	351.8	329.5	311.1	292.5	277.6	266.5	262.9
69°	362.9	366.6	359.1	344.4	325.8	303.6	285.1	270.3	255.4	244.3	237.0
70°	340.6	336.9	329.5	314.7	296.2	281.4	262.9	244.3	229.6	214.7	211.0
71°	311.1	311.1	303.6	292.5	274.0	255.4	237.0	222.1	207.4	188.8	185.2
72°	288.7	288.7	281.4	266.5	251.8	233.2	214.7	196.3	185.2	166.6	159.2
72.5°	274.0	277.6	270.3	255.4	240.7	218.5	203.6	188.8	170.3	155.5	148.1
73°	266.5	262.9	259.2	244.3	225.9	211.0	192.5	177.7	159.2	144.4	137.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
77.5°	166.6	166.6	163.0	148.1	133.3	118.5	103.7	88.8	74.0	59.3	51.8
80°	114.8	118.5	111.1	103.7	92.6	77.7	62.9	51.8	37.1	29.6	22.2
82.5°	74.0	74.0	70.4	62.9	55.5	44.4	37.1	26.0	18.5	14.8	11.1
85°	37.1	40.7	37.1	33.3	26.0	22.2	18.5	11.1	7.4	3.7	3.7
87.5°	14.8	14.8	14.8	11.1	11.1	7.4	3.7	3.7	3.7	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2732.5	2732.5	2732.5	2732.5	2732.5	2732.5	2732.5	2732.5	2732.5	2732.5
2.5°	2721.4	2721.4	2714.0	2710.2	2706.6	2702.8	2699.1	2695.5	2695.5	2699.1
5°	2699.1	2691.7	2676.9	2673.3	2662.2	2658.4	2651.1	2647.3	2651.1	2647.3
7.5°	2665.8	2651.1	2632.5	2625.1	2610.3	2602.9	2591.8	2591.8	2584.4	2588.0
10°	2621.4	2599.2	2576.9	2562.2	2551.1	2540.0	2532.5	2525.2	2521.4	2521.4
12.5°	2565.8	2540.0	2517.8	2495.5	2477.0	2469.6	2454.8	2454.8	2447.4	2443.7
15°	2502.9	2469.6	2443.7	2421.5	2406.6	2391.9	2380.8	2373.3	2365.9	2365.9
17.5°	2421.5	2391.9	2365.9	2340.0	2317.8	2306.7	2295.6	2284.5	2284.5	2277.1
20°	2332.6	2299.3	2277.1	2251.1	2232.7	2214.1	2199.4	2199.4	2191.9	2195.6
22.5°	2232.7	2191.9	2169.7	2151.2	2132.7	2117.9	2103.0	2103.0	2099.3	2095.7
25°	2121.6	2088.2	2062.3	2040.1	2029.0	2014.2	2010.4	2003.1	1999.3	1999.3
27.5°	2003.1	1977.1	1943.8	1932.7	1918.0	1910.5	1910.5	1906.8	1899.4	1903.1
30°	1877.2	1847.6	1829.0	1821.7	1806.8	1806.8	1803.2	1795.7	1795.7	1799.4
32.5°	1755.0	1725.4	1710.6	1706.9	1692.0	1692.0	1688.4	1692.0	1692.0	1695.8
35°	1621.8	1595.8	1592.1	1581.0	1577.3	1577.3	1577.3	1584.7	1592.1	1581.0
37.5°	1495.9	1477.3	1466.2	1462.5	1466.2	1466.2	1469.9	1481.0	1477.3	1473.6
40°	1366.2	1351.5	1344.0	1344.0	1351.5	1358.8	1358.8	1370.0	1373.7	1370.0
42.5°	1236.7	1225.6	1225.6	1229.2	1236.7	1240.3	1251.4	1262.5	1266.3	1270.0
45°	1114.5	1114.5	1114.5	1118.1	1121.9	1129.3	1144.1	1155.2	1158.9	1162.6
47.5°	996.0	992.2	1003.4	1007.1	1018.2	1021.9	1033.0	1047.8	1051.5	1055.3
50°	884.9	892.3	896.0	907.1	914.5	914.5	929.4	936.7	947.8	947.8
52.5°	781.2	792.3	796.1	807.2	810.8	814.6	821.9	833.0	840.5	840.5
55°	688.7	692.4	699.8	703.5	714.6	718.4	725.7	729.5	740.6	736.8
56°	648.0	655.3	659.1	666.4	673.8	677.6	684.9	688.7	696.0	699.8
57°	610.9	614.7	625.8	629.4	636.9	636.9	640.5	651.6	651.6	655.3
58°	573.9	581.3	585.0	588.7	596.1	599.8	607.2	610.9	614.7	610.9
59°	540.5	544.3	548.0	548.0	555.4	555.4	566.5	573.9	577.6	577.6
60°	507.2	507.2	511.0	514.7	522.1	525.8	525.8	533.2	533.2	533.2
61°	473.9	473.9	477.7	481.3	485.0	485.0	492.4	492.4	496.1	499.9
62°	444.3	440.6	440.6	444.3	444.3	451.7	455.4	459.1	462.8	459.1
63°	411.0	407.3	407.3	407.3	407.3	414.6	414.6	418.4	425.7	422.1
64°	374.0	374.0	374.0	374.0	377.7	377.7	385.1	388.8	392.4	396.2
65°	348.0	340.6	336.9	336.9	340.6	344.4	348.0	351.8	355.5	355.5
66°	318.4	311.1	307.3	307.3	307.3	307.3	314.7	314.7	322.2	322.2
67°	285.1	277.6	274.0	270.3	270.3	270.3	281.4	277.6	277.6	277.6
67.5°	274.0	262.9	259.2	255.4	251.8	259.2	255.4	259.2	259.2	255.4
68°	259.2	251.8	244.3	237.0	237.0	237.0	240.7	244.3	240.7	237.0
69°	229.6	225.9	214.7	207.4	203.6	207.4	203.6	207.4	203.6	207.4
70°	203.6	192.5	181.4	177.7	174.1	174.1	174.1	170.3	174.1	170.3
71°	177.7	166.6	155.5	148.1	144.4	144.4	140.7	144.4	140.7	144.4
72°	151.9	140.7	125.9	118.5	118.5	118.5	118.5	114.8	118.5	114.8
72.5°	140.7	125.9	114.8	107.4	103.7	103.7	103.7	103.7	99.9	103.7
73°	129.6	114.8	99.9	96.2	96.2	96.2	92.6	88.8	92.6	92.6





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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
77.5°	44.4	33.3	29.6	29.6	29.6	29.6	29.6	29.6	26.0	26.0
80°	18.5	14.8	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1
82.5°	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
85°	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Report Generated By 670245859 / DESKTOP-HRDQ47P





— 0°-180°    - - 45°-225°    - - - - 90°-270°







74°	240.7	240.7	233.2	222.1	203.6	185.2	170.3	155.5	137.0	118.5	111.1
75°	222.1	218.5	211.0	199.9	185.2	166.6	151.9	133.3	118.5	99.9	92.6







74°	107.4	88.8	81.5	74.0	74.0	74.0	70.4	70.4	70.4	74.0
75°	85.1	70.4	62.9	55.5	59.3	55.5	59.3	55.5	55.5	55.5



(END OF REPORT)